National Aeronautics and Sace Administration

Office of
Small Business Programs (OSBP)
where small business makes a **big** difference

Clark Atlanta University

Research and Development and Technical Support Capabilities

www.nasa.gov

CAU Goals and Team

- Assemble a highly qualified **Team** to provide the government, its contractors, and small and large businesses with Research and Development and Technical Support Services (R&DTSS).
- Deliver outstanding products and services.
- Develop residual technical capability and experience within CAU to respond to future contracts and to provide for the training and production of skilled minority personnel to meet the nations science and engineering manpower needs for the future.
- The **Team** consists of highly qualified faculty, staff, and students and, if necessary, subcontractors that have a history of working with CAU faculty and students.

Relevant Experience/Policies

- CAU and its subcontracts have experience with Task Order Contracts.
- CAU and its subcontractors have policies in place to protect Export Controlled Data and abide to the International Trade Arms Regulations (ITAR). (Several Team members hold security clearances.)
- Examples of Past Performance are in our capabilities statement.
- DUNS No: **06-532-5177** Cage Code: **0MVF5** NACIS ID(s): **611310, 541710, 541720** SIC: **8221, 8732, 8733**
- Federal EIN No: **58-1825259**
- Certificates, Registrations, Accreditations: ***SACSCOC, AACSB, CSWE, CACREP, NSPPAA, NCATE, GAPSC***

Clark Atlanta University

Clark Atlanta University (CAU) is a private, urban, coeducational institution of higher education. The University was established in 1988 through the consolidation of two parent institutions — Atlanta University (1865) and Clark College (1869), the nation's first institution to award graduate degrees to African Americans, and Clark College (1869) the nation's first four-year liberal arts college to serve a primarily African-American student population.

About CAU

- CAU is the largest of the 37 member UNCF colleges, offers undergraduate, graduate and professional, and non-degree certificate programs.

- CAU is classified by Carnegie as a Doctoral/Research University (DRU) and the only private, independent graduate research institution in the HBCU community, and the only HBCU member of the Georgia Research Alliance.

- CAU is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the baccalaureate, masters, specialist and doctorate degrees.

- The University offers 38 major areas of study through four schools – Arts and Sciences; Business Administration; Education; and Social Work and awards Bachelor's, Master's, Specialist, and Doctoral degrees.

- Total full-time teaching faculty number = 171, 81% of whom hold terminal degrees; 67% have tenure status. Faculty-student ratio is 1:15.

CAU STEM Degree Offerings

• Biology	B.S.	M.S.	PhD
• Chemistry	B.S.	M.S.	PhD
• Computer and Information Systems*	B.S.		
• Computer Science	B.S.	M.S.	
• Mathematics	B.S.	M.S.	
• Physics	B.S.	M.S.	
• Dual-Degree Engineering (STEM Partner Institution)	B.S.		CAU/Engineering B.S.

* Transforming to Department of Cyber-Physical Systems, which will include new bachelor of science programs in cybersecurity, robotics, and data analytics.

Past Performance and Capabilities

The CAU HiPPAC Center was funded as NASA University Research Center (URC) 1992-2012.

NASA NAGW-2939
NASA NCC3-552
NASA NCC3-1044

The CAU HiPPAC Center was a certified vendor for the Lockheed F-22 program.

The HiPPAC Center has successfully carried out contracts for Aerospace and Companies.

The NASA URCs were charged to build the infrastructure to meet NASA and NASA contractor needs.

Multidisciplinary Centers of excellence

- Center for Cancer Research and Therapeutic Development (CCRTD)
- Center for Innovation and Entrepreneurial Development (CIED)
- Center for Theoretical Studies of Physical Systems (CTSPS)
- Center for Undergraduate Research and Creativity (CURC)
- Center of Excellence in Supply Chain Management
- Functional Nanoscale Materials (CFNM)
- High Performance Polymers and Composites (HiPPAC)
- National Security Studies; Cybersecurity (CAENS)

FACILITIES

- **INNOVATION LAB 3D PRINTER/ADDITIVE MANUFACTURING (AM)**. The CAU innovation lab is designed to support students and faculty as well as facilitate technology transfer to the market place. As part of CAUs Innovation Lab we have developed a 3D printing/additive manufacturing laboratory (AM) with fifteen (15) 3D printers. This lab is designed with room for further expansion in the future. AM, is a key technology for rapid prototyping, new product development, and production of low volume parts for a variety of applications.
- **COMPOSITES PROCESSING** capabilities include autoclave processing, Resin Transfer Molding (RTM), Vacuum Assisted Resin Transfer Molding (VARTM), Thermoforming and Compression Molding. The labs also have polymer processing capabilities, including extrusion, batch mixing, blending and alloying.
- **THERMAL ANALYSIS LABORATORY** provides Differential Scanning Calorimeter (DSC), Thermo-gravimetric Analysis (TGA), Dynamic Mechanical Analysis (DMA) and Thermo-mechanical Analysis (TMA). The Thermal Analysis Laboratory allows determination of degree of cure, heat of reaction, cure kinetics, and glass transition temperature (T_g).
- **RHEOLOGY** lab functions in parallel with the thermal analysis laboratory. The rheology equipment allows determination of the viscoelastic properties of polymeric materials as it relates to molecular structure, processibility, physical properties and end use performance.

- **MECHANICAL CHARACTERIZATION** capabilities include ASTM, SACMA, CMC, and MIL-STD tensile, compression, torsion, flexural, and shear quasi-static as well as high cycle dynamic (fatigue) testing. Digitally controlled convection chambers (-129°C to 600°C) temperatures along with high temperature capacitance extensometers allow experiments to be conducted at extreme temperatures. Long focal length microscope allows for the observation and measurement of cracks and damage in monolithic and composite materials.
- **CHEMICAL ANALYSIS** analyzes chemical compounds using Infrared spectroscopy, Raman spectroscopy and/or Nuclear Magnetic Resonance. These labs are important for allowing determination of the chemical make-up of polymer resins used in polymer matrix composites, the determination of side or by-products generated during cure, and miscellaneous trouble shooting into chemistry related problems.
- **GEOGRAPHIC INFORMATION SYSTEM (GIS) LABORATORY** is designed to capture, store, manipulate, analyze, manage, and present spatial or geographical data and is administered through the Department of Sociology and Criminal Justice and a full-time GIS Coordinator. The laboratory is configured with a SmartBoard system, 14 stations, and a portable Wacom Cintiq tablet.

Contact Information

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